

### REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 21-32 are presented for consideration. Claims 25 and 32 have been canceled without prejudice or disclaimer of subject matter. Claims 21 and 29-31 are independent. Claims 21-23, 26 and 29-31 have been amended to clarify features of the subject invention. Support for these changes can be found in the original application, as filed. Therefore, no new matter has been added. Applicant requests favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 21-29 and 31 have been rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,010,355 (Roehrman et al.). Claim 30 has been rejected under 35 U.S.C. § 103 as being unpatentable over the Roehrman et al. patent in view of U.S. Patent No. 6,303,398 (Goerigk). Applicant submits that the cited art does not teach many features of the present invention as previously recited in claims 21-32. Therefore, these rejections are respectfully traversed. Nevertheless, Applicant submits that claims 21-24, and 26-31, as presented, amplifies the distinctions between the present invention and the cited art.

Independent Claim 21 as currently amended is directed to apparatus that reads a code formed on a substrate. In the apparatus, a transfer system has a holding member that holds the substrate and a transfer mechanism that transfers the holding member to transfer the substrate. A reading system optically reads a code formed on the substrate. At least a part of the reading system is located on at least one of the holding member and the transfer mechanism.

Independent Claim 29 as currently amended is directed to apparatus used to manufacture a device. In the apparatus, a transfer system has a holding member that holds a substrate and a transfer mechanism that transfers the holding member to transfer the substrate. A reading system optically reads a code on the substrate. At least a portion of the reading system is located on at least one of the holding member and the transfer mechanism. A process system performs a process using the substrate based on information of the code read by the reading system.

Independent Claim 31 as currently amended is directed to a method used to manufacture a device in which a substrate is transferred using a transfer system that has a holding member to hold a substrate and a transfer mechanism to transfer the holding member. A code formed on the substrate is optically read using a reading system. At least a portion of the reading system is located on at least one of the holding member and the transfer mechanism. A process is performed using the substrate based on information of the read code.

In Applicant's view, Roehrman et al. discloses machine readable identifying indices for a semiconductor wafer having a top surface and a bottom surface. At least one flat edge is placed on the bottom surface of the semiconductor wafer, positioned in a predetermined relationship to the flat edge, desirably parallel to the flat edge. A unit is provided to direct a first beam of radiant energy at the machine readable code and a second beam of radiant energy at the semiconductor wafer proximate to the machine readable code. A sensing unit detects the first and second beams after impinging on the semiconductor wafer. A differential amplifier produces a series of output pulses representing the machine readable code. The output from the sensing

unit constitutes the inputs to the differential amplifier. The machine readable code may be a bar code including error check symbols.

According to the invention defined in Claims 21, 29 and 31 as currently amended, a transfer system has a holding member that holds a substrate and a transfer mechanism that transfers the holding member. A reading system that optically reads a code formed on the substrate has at least a portion located on at least one of the holding member and the transfer mechanism. Advantageously, the substrate code is quickly read during transfer or storage regardless of code position.

Roehrman et al. may teach a semiconductor wafer that has machine readable indices and an arrangement for reading indices on the wafer. As disclosed at lines 50 to 63 of column 3 of Roehrman et al., "In operation, the read head 30 is scanned along the bar code row 18 and 20, such as by means of a pneumatic cylinder and piston, or solenoid. With automated wafer handling, the semiconductor wafer 12 is propelled along a suitable conveying means, such as a conventional semiconductor wafer air slide to a reading station. A suitable stop means interrupts the wafer travel at the read station, the wafer is oriented by means of the flat edge 16, e.g., by rotating it with rollers until the flat 16 has reached the desired position, the wafer is scanned with the read head 30, then the wafer is released from the read station to continue its travel along the air slide." As a result, Roehrman et al. is restricted to teaching a wafer that is propelled by a conventional semiconductor air slide and a stop means which interrupts wafer travel at a read station. There is no suggestion in Roehrman et al. that the air slide which conveys the wafer has any portion of a reading system or that the stop means which interrupts wafer travel has any

portion of the reading system. Rather, the reading is performed by a read head 30 that is separate from the air slide and the stop means.

In contrast to Roehrman et al.'s air slide wafer propelling means and travel interrupting stop means, it is a feature of Claims 21, 29 and 31 that at least a portion of a reading system is located on at least one of the holding member that holds the substrate and the transfer mechanism that transfers the holding member. It is not seen that Roehrman et al.'s stop means which has the sole function of interrupting travel at a reading station and is not transferred by any other unit of Roehrman et al. could possibly suggest the holding member of Claims 21, 29 and 31 which is transferred by a transfer mechanism. Further, Roehman et al. is devoid of any disclosure or suggestion that the semiconductor wafer air slide for conveying a wafer or the stop means that interrupts wafer travel performs any portion of the reading function of the reading head 30. Accordingly, it is not seen that Roehman et al. in any manner teaches or suggests a reading system that is located on at least one of a holding member that holds a substrate and a transfer mechanism that transfers the holding member as in Claims 21, 29 and 31. It is therefore believed that Claims 21, 29 and 31 are completely distinguished from Roehrman et al. and are allowable.

Independent Claim 30 as currently amended is directed to exposure apparatus in which a transfer system has a holding member that holds a substrate and a transfer mechanism that transfers the holding member to transfer the substrate. A reading system optically reads a code formed on the substrate. At least a portion of the reading system is located on at least one of the holding member and the transfer mechanism. An exposure system performs an exposure process using the substrate based on information of the read code.

In Applicant's opinion, Goerigk discloses an arrangement provided to automatically manage wafers in a semiconductor device production facility. Wafers to be processed in a clean room are automatically identified, tracked and sorted on a single wafer basis. By means of wafer attribute information, including the unique position data and the entirety of a specific treatment to which the wafer is subjected, the processing of each wafer is controlled without the necessity to place wafers of respective lots in a single wafer cassette.

It is a feature of Claim 30 as currently amended that a reading system that optically reads a code formed on a substrate and is held by a holding member which is transferred by a transfer mechanism has a portion of the reading system located on at least one of the holding member and the transfer mechanism. Goerigk may teach a system that automatically manages wafers in a semiconductor device production facility in which wafers are automatically identified, tracked and sorted by wafer located identification marks but fails to suggest the features of Claim 30 of the reading system that has a portion located on at least one of the holding member and the transfer mechanism.

With regard to the cited combination, Roehrman et al. only teaches a semiconductor wafer air slide to convey a wafer and a stop means with a sole function of interrupting wafer travel at a reading station. As discussed with respect to Claims 21, 29 and 31 Roehrman et al. fails in any manner to suggest that the wafer air slide has any portion of a reading system (30) or that the stop means has any portion of the reading system (30). Goerigk has only been cited as disclosing an automatic wafer management system that uses wafer located identification marks but is devoid of any suggestion of the feature of Claim 30 of locating a portion of a reading system on at least on

of a substrate holding member and a holding member transfer mechanism. Accordingly, it is not seen that the addition of Goerigk's automatic wafer management system utilizing wafer located identification marks devoid of the reading system features of Claim 30 to Roehrman et al.'s wafer air slide without any suggestion of having a portion of a reading system or stop means without any suggestion of having a portion of a reading system could possibly suggest the features of Claim 30. It is therefore believed that Claim 30 as currently amended is completely distinguished from any combination of Roehrman et al. and Goerigk and is allowable.

Applicant submits that the cited art does not teach or suggest such features of the present invention, as recited in independent claims 21 and 29-31.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 21 and 29-31, also is patentably defined over the cited art.


Dependent claims 22-24 and 26-28 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claim 21. Further individual consideration of this dependent claim is requested.

Applicant further submits that this Amendment After Final Rejection clearly places this application in condition for allowance. This Amendment was not earlier presented because Applicant believed that the prior Amendment placed the application in condition for allowance. Accordingly, entry of the instant Amendment, as an earnest attempt to advance prosecution and reduce the number of issues, is requested under 37 CFR 1.116.

Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action and an early Notice of Allowance are also requested.

Applicant's attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in cursive script, reading "Jack S. Cubert", written over a horizontal line.

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